

The Chair's 2015 Department Report Card



2015 was a year of readjustment. Readjustment denotes change, and therefore, positive progress. The department is leaner and more nimble in its operations. We adjusted to the retirement of three senior colleagues (**Drs Fred Markham, Alfonso Lopez** and **Arnost Cepica**), welcomed three colleagues to tenure-track positions (**Drs Cora Gilroy, Shannon Martinson, and Anne Muckle**), one colleague to a cross-appointment (**Dr. Sandra McConkey**) and one colleague to a sessional appointment (**Dr. Melanie Buote**). The department performance indicators remained strong and continued trending upwards. I am therefore proud to report the following sample of achievements of our faculty, staff and students:

Dr. Alfonso Lopez was conferred the rank of Professor Emeritus at UPEI.

Dr. Dave Speare was appointed the new Editor-in-Chief for Journal of Fish Diseases.

Dr. Shelley Burton became President of the American Society for Veterinary Clinical Pathology (ASVCP).

Dr. Cora Gilroy was the recipient of the 2015 Zoetis Carl J. Norden Distinguished Teacher Award.

Dr. Mark Fast was the recipient of the 2015 Zoetis Award for Research Excellence.

Dr. Fred Kibenge received the 25-Year Employee Service Award (1989-2015), and was elected to a third 3-year term as Department Chair.

Dr. Gary Conboy was elected to a second term as Senate faculty representative on the UPEI Board of Governors.

Allan MacKenzie and **Patty McKenna** received the 25-Year Employee Service Awards (1989-2015).

The following faculty members were successful in obtaining funding in 2015:

Dr. Lisa Miller (Adjunct and Graduate Faculty member) received continuing funding for the Chinook Project.

Drs. Chelsea Martin and **Juan Carlos Rodriguez** received a research grant from the 2014 Zoetis Investment in Innovation Fund.

Dr. Pierre-Yves Daoust (with Drs Jonathan Spears, Biomedical Sciences, and Hans Gelens, Companion Animals) received a service grant from the 2015 SJD AWC Grant Competition.

Dr. Mark Fast received a service grant from NRC-IRAP, and research grants from Elanco Canada Ltd, NSERC-Engage, and Norwegian Research Council.

Drs. Pierre-Yves Daoust and **Scott McBurney**, and **Jordi Segers** received a contract with Environment Canada.

Dr. Anne Muckle received an NSERC-Engage research grant.

Faculty members published a combined total of 35 peer-reviewed articles and 15 book chapters.

Five graduate students successfully defended their theses (PhD: **Drs María Forzán, Ravinder Sappal, and Sarah McConnachie**), (MSc: **John Davidson**) and (MVSc: **Dr. Fany Marron-Lopez**).

The following graduate students won awards at AVC 23rd Annual GS&R Days 2015:

Dr. Jocelyn Perez Lazo received The Dr. Douglas W. Ehresmann Graduate Award (Virology).

Jordan Poley received The John and Carol MacLeod Award for Research Communication Excellence, and Bronze prize in Paper Presentations.

Ori Elad received a Bronze prize in Paper Presentations.

Jordan Poley was the recipient of the 2015 Department of Pathology and Microbiology Seminar Series Award for Best Seminar Presentation.

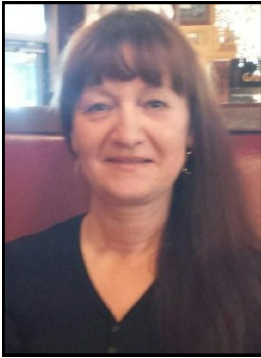
The department welcomed two new graduate students (**Kami Harris** and **Dr. Carlos Lopez-Menendez**).

2016 promises ever more innovation and excellence in our teaching, research and professional service functions.

"Don't find fault -- find a remedy": Henry Ford, Industrialist.

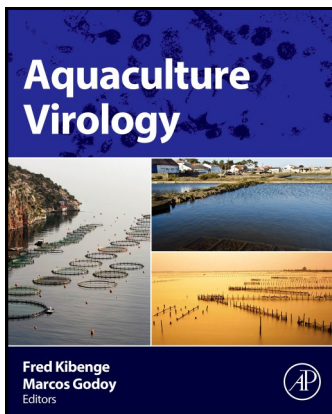
Fred Kibenge.

Diane MacLean Retires from UPEI



As of February 3, 2016, **Diane MacLean** has officially retired from UPEI. Diane has been with the AVC for 24 years, beginning on June 7, 1993, in Anatomy and Physiology (now Biomedical Sciences). Before being hired in Anatomy and Physiology, Diane filled a maternity replacement in Pathology and Microbiology from June 22, 1992, to December 31, 1992. She was hired permanently as an Administrative Assistant in Pathology and Microbiology on July 29, 1996, and was located at the Reception desk, working for and greeting our students, staff and faculty. We appreciate all her kindnesses over the years. We wish her happiness, success and good health as she begins her retirement.

New textbook of Aquaculture Virology



Congratulations to **Dr. Fred Kibenge** who is having his first book published by Academic Press; the expected release date is June 1st, 2016. The book "*Aquaculture Virology*" 1st Edition is co-edited with Dr. Marcos Godoy of the Center for Applied Biological Research (CIBA) in Chile. *Aquaculture Virology* covers principles of clinical virology for viruses of the three major aquatic food animals: fish, crustaceans, and molluscs. The authors for the different chapters are invited international experts recognized in their specific virus family or disease(s). Dr. Kibenge wrote or co-wrote 8 of the 39 chapters of the book. The details including the Table of Contents, are available at this link:

<http://www.store.elsevier.com/9780128015735>

Dr. Anne Muckle wins SAVMA Community Outreach and Education Award



Congratulations to **Dr. Anne Muckle**, who was recently the winner of the 2016 Student American Veterinary Medical Association (SAVMA) Community Outreach and Education Award. The award includes a \$300 cash prize and paid travel expenses to the SAVMA Symposium in March, 2016 at the University of Iowa College of Veterinary Medicine in Ames, Iowa, for the official presentation of the award.

Well Done Dr. Muckle!

Recent Research Grant



Congratulations to **Dr. Mark Fast** for his recent success in being awarded an NSERC Engage Grant of \$25,000, with Industrial partner Somru BioScience Inc, Charlottetown, PEI. The research project is titled 'Non-invasive health assessment assay in sturgeon broodstock'.

Well Done Dr. Fast!

Pathology Training For Medicine and Surgery Residents

The large animal internal medicine and surgery residents enjoyed an intensive week of pathology training from

December 7-11, 2015. The clinical pathology sessions were led by **Drs. Shelley Burton, Cora Gilroy and Barbara Horney**. Anatomic pathology training was provided by **Drs. Shannon Martinson, Andrea Bourque and Paul Hanna**. This week partially met requirements for time spent with American College of Veterinary Pathologists (ACVP) boarded pathologists in residency programs accredited by the American College of Veterinary Internal Medicine (ACVIM) and the American College of Veterinary Surgeons (ACVS).



Left to right: Drs. Emily John (Internal Medicine resident), Shannon Martinson, Cora Gilroy and Nora Biermann (Surgery resident).

Cuvier's Beaked Whale Necropsy

A male Cuvier's beaked whale stranded near Blandford, Nova Scotia, on February 7, 2016, but died shortly afterwards. The carcass was secured in collaboration with the Blandford volunteer fire department, the Department of Fisheries and Oceans, and the Marine Animal Response Society. This is likely the first stranding record for this species in the Maritimes. The Cuvier's beaked whale is a deep-water whale, a species that spends its time well offshore in water depths of 1,000 to 2,000 metres. It remains sometimes submerged for an hour or more and feeds on squid and crustaceans. The animal was transported to the AVC post-mortem lab on a flatbed truck (it must have turned some heads) for a post-mortem examination on February 14, 2016. The necropsy was performed by **Dr. Pierre - Yves Daoust** and Dr. Donald McAlpine, Curator of Zoology at the New Brunswick Museum, Tonya Wimmer with the

Marine Animal Response Society, NS, **Fiep DeBie** and a large group of very dedicated students from the AVC. The cause of death was not determined at the time of necropsy, although further analysis of tissue samples remains to be completed. This animal was an immature male in good body condition. Its stomach was empty, except for a little bit of plastic debris, which is not uncommon in a stranded whale these days. The total length of the animal was 4.85 m, and its weight was estimated to be 1,270 kg. This rare whale will eventually be on public display in the New Brunswick Museum. The museum's dermestid beetle colony (beetles that feed on dried flesh) will be given the task of cleaning the skeleton. Next stage will be degreasing, followed by re-assembly of the skeleton. It will be ready for public display in the marine mammal gallery at the museum in a year or two. Dr. Pierre-Yves Daoust is the Director of the Atlantic Region node of the Canadian Wildlife Health Co-operative (CWHC).



Photo: Dr. Pierre-Yves Daoust with Fiep DeBie and students of the Atlantic Veterinary College DVM program.

The Bats of Prince Edward Island National Park

In the summer of 2015, Canadian Wildlife Health Cooperative's (CWHC) **Jordi Segers** and **Dr. Scott McBurney**, in collaboration with their summer field assistant Lauren Grant and Saint Mary's University's Dr. Hugh Broders, conducted a bat inventory and monitoring study for Parks Canada in Prince Edward Island National Park (PEINP). The results of the study were documented in a technical report, which was presented to PEINP's Resource Conservation staff in February. The results were exciting because the magnitude of bat activity was larger than anticipated based on other sites where White Nose Syndrome (WNS) has affected bat populations. The vast majority of bat echolocation calls recorded were either those of the little brown myotis (*Myotis lucifugus*) or northern myotis (*M. septentrionalis*), both of which are endangered species in Canada. Additionally, echolocation calls of the migratory hoary bat (*Lasiurus cinereus*) - Canada's largest species of bat - were detected. Jordi Segers was interviewed by local CBC news: <http://www.cbc.ca/news/canada/prince-edward-island/pei-bat-population-study-1.3454368>

To enable the park to make inferences about trends in bat activity, the research group will continue the bat monitoring program this coming summer with technical support from the CWHC at the AVC. Until then, the CWHC conducts winter surveillance on bats, including those on PEI. Through February, March, and April many bats with WNS may fly out of their hibernation site and die. On PEI, these sites can be buildings with Island stone foundations or old wells. Finding and reporting bats dead or alive on the landscape at this time of year can be a huge support and the CWHC relies on the public to report sightings of bats in winter to the provincial Forest, Fish and Wildlife Division.

Useful links: CWHC on WNS: <http://www.cwhc-rclf.ca/wns.php>

PEI Forest, Fish and Wildlife on WNS:

<http://www.gov.pe.ca/forestry/WNSyndrome>



Northern myotis in the hand -Photo by Jordi Segers

Welcome to Our New Graduate Students



Desmond Hammill, who likes to be referred to as D.L., originated from Kinkora, PEI. He studied Biochemistry at Mount Allison University in Sackville, NB, graduating in 2007. In 2008, D.L. began working with the Canadian Food Inspection Agency (CFIA) based at the Charlottetown laboratory adjacent to the AVC. He is currently working under the supervision of Dr. Huimin Xu. He is a Master's student co-supervised by Drs. **Fred Kibenge** and Huimin Xu. His research involves the implementation of next generation sequencing technology within the CFIA's Potato Post Entry Quarantine program.

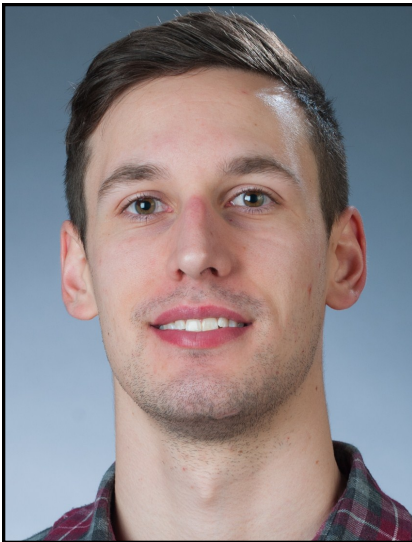
Photo: Desmond Hammill

Welcome to Our New Graduate Students



Alyson Brown is from a small community on the Kingston Peninsula, outside of Saint John, NB. She received her BSc. Hons. in General Biology from the University of New Brunswick (UNB) in 2015. While at UNB, she worked as an Honour's student in the MADSAM Eco-Physiology Sturgeon Lab. Her thesis was titled: The Relationship between Body Size and Haematological Parameters in Shortnose Sturgeon (*Acipenser brevirostrum*). At the AVC, Alyson is a Master's student under the supervision of **Dr. Mark Fast**, studying the applicability of two Atlantic salmon vaccines on Arctic charr. In her spare time, she enjoys kayaking and swimming.

Photo: Alyson Brown



Dylan Michaud, originally from Ontario, completed his Honours specialization in Biology at the University of Western Ontario, where he dealt with various bacterial and fungal pathogens learning multiple culturing and diagnostic techniques. Dylan is a Master's student under the supervision of **Dr. Mark Fast**, studying the basic biological functions of *Lepeophtheirus salmonis* (salmon louse) in order to discover new potential treatment and management strategies to this pathogen. In his spare time, Dylan enjoys sailing water polo and playing guitar.

Photo: Dylan Michaud



Dr. Nicole Kaiser began her MVSc/Residency in Anatomic Pathology this January, under the co-supervision of **Drs. Chelsea Martin** and **Enrique Aburto**. Nicole is originally from Halifax, Nova Scotia. She is a 2012 graduate of the Atlantic Veterinary College. She spent the last three years working with a small animal mobile clinic in Lake Echo, Nova Scotia. Nicole is excited to be back in Charlottetown working towards board certification with the American College of Veterinary Pathologists (ACVP) and can't wait to have the chance to enjoy the summers here. She lives downtown with her two cats, Muk and Diglett, and two guinea pigs, Eugene and Nacho.

Photo: Dr. Nicole Kaiser

Collaborative Effort Strengthens Links Between Canada and Colombia

Dr. Rodriguez-Lecompte had a highly productive visit to the Universidad de Caldas, in Manizales, Colombia, in December 2015. Dr Rodriguez was an invited speaker at the graduate student seminar series where he delivered a talk entitled 'The effect of immunomodulant on macrophages'. The talk focused on his work on mastitis here at the AVC, a collaborative effort that has strengthened the links between Canadian and Colombian researchers. During this visit, Dr. Rodriguez-Lecompte also served as the external examiner for the PhD defense of Dr. Nestor Villa, whose dissertation "Cetosis y su asociación con sanidad mamaria y fertilidad al inicio de la lactancia en vacas de alta producción" [Ketosis association with mammary gland hygiene and early lactation fertility in high production milk cattle] is a part of the Canadian-Colombian research collaboration.



The picture shows members of Dr. Villa's Examination Committee as well as former and new faculty members of the university: Drs. Francisco J. Henao (PhD program Director), Gerardo Tellez, German Gomez, JCRL, Nestor Villa, Miguel Gutiérrez, and Oscar Betancur (Middle).

Dr. Rodriguez-Lecompte along with students and faculty of the Universidad de Caldas, including his PhD student Dr. Claudia Cobo (Center).



Visiting PhD Student Dr. Claudia Cobo



Beside providing training sessions in Colombia during his visit last December, **Dr. Rodriguez-Lecompte** is currently co-supervising **Dr. Claudia Cobo**, a PhD candidate at Universidad de Caldas. Dr. Rodriguez was a member of her PhD comprehensive examination committee. Dr. Cobo is currently at the AVC taking Dr. Javier Sanchez's VHM 812 course in epidemiology and the VPM 885 course Bioinformatics for Graduate Students and training in laboratory techniques in Dr. Rodriguez's laboratory.

Photo: Dr. Claudia Cobo

2016 Winter Seminar Series

Departments of BioMedical Sciences & Pathology & Microbiology

Tuesdays, 3:30-4:30 AVC Lecture Theatre C

Date	Topic	Presenter
March 29, 2016	Epigenetic characterization of the effect of Folic Acid	Ori Elad

Recent Publications

Kibenge MJT, Iwamoto T, Wang Y, Morton A, Routledge R, Kibenge FSB. Discovery of variant infectious salmon anaemia virus (ISAV) of European genotype in British Columbia, Canada. *Virology Journal* 2016: 13:3 DOI 10.1186/s12985-015-0459-1.

Alizadeh M, Rodriguez-Lecompte JC, Rogiewicz A, Patterson R, Slominski BA. Effect of yeast-derived products and distillers dried grains with solubles (DDGS) on growth performance, gut morphology, and gene expression of pattern recognition receptors and cytokines in broiler chickens. *Poultry Science* 2016: 00:1-11 <http://dx.doi.org/10.3382/ps/pev362>

Echeverry H, Yitbarek A, Munyaka P, Alizadeh M, Cleaver A, Camelo-Jaimes G, Wang P, KO, Rodriguez-Lecompte JC. Organic trace mineral supplementation enhances local and systemic innate immune responses and modulates oxidative stress in broiler chickens. *Poultry Science* 2016: 0:1-10 <http://dx.doi.org/10.3382/ps/pev374>.

Fenton H, Forzán M, Desmarchelier M, Woodland M, Sayi S, Gilroy C. Poorly differentiated cutaneous carcinoma of non-sebaceous origin in a 3-year-old Mongolian gerbil (*Meriones unguiculatus*). *Canadian Veterinary Journal* 2016; 57: 80-83.

Alizadeh M, Rodriguez-Lecompte JC, Echeverry H, Crow GH, Slominski BA. Effect of yeast –derived products and distillers dried grains with solubles (DDGS) on antibody-mediated immune response and gene expression of pattern recognition receptors and cytokines in broiler chickens immunized with T-cell dependent antigens. *Poultry Science* 2016:00:1-11 <http://dx.doi.org/10.3382/ps/pev449>.

Alizadeh M, Rogiewicz A, McMillan E, Rodriguez-Lecompte JC, Patterson R, Slominski BA. 2015. Effect of yeast-derived products and distillers dried grains with solubles (DDGS) on growth performance and local innate immune response of broiler chickens challenged with *Clostridium perfringens*. *Avian Pathology (Epub ahead of print March 2016 PMID: 26956683)* (DOI: 10.1080/03079457.2016.1155693)

Lopez A, Aburto E, Jones K, Robbins W, Conboy G. *Eucoleus boehmi* infection in the nasal conchae and paranasal sinuses in red fox (*Vulpes vulpes*) on Prince Edward Island, Canada. *Journal of Wildlife Diseases*: DOI: 10.7589/2015-06-149.

Conboy GA, Hare J, Caldwell J, Martin D, Al Izzi S. 2016. Chronic cough in a 3-year-old Labrador retriever. *Clinician's Brief* 2016;14: 35-38

For comments or suggestions for our newsletter, please contact: Dr. Fred Kibenge (kibenge@upei.ca) or

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